

Amendments to the Claims

1. (Currently amended) A method of performing total knee arthroplasty on a patient's knee, the method comprising, ~~in the following order:~~

forming an incision ~~of about 13 cm or less;~~

positioning a cutting guide member in alignment with a bone of the knee;

cutting bone of at least the first and second condyles of the knee, including

initiating a cut in the bone while guiding ~~[[the]]~~ a cutting tool along a guide surface of the guide member to form a cut surface,

angularly disposing the cutting tool along the guide surface in order to cut a section of the bone wider than the width of the guide, at least a portion of said cut section of bone being located in the interior of the body with respect to the incision,

removing the guide member from against the bone, and then completing the cut of the section of bone, while guiding the cutting tool along the cut in the cut section; and

positioning a total knee replacement component against the cut bone of the knee,

wherein the cut of the section of bone has a dimension longer than the guide surface of the guide member, and

wherein bone may be prepared for a total knee arthroplasty ~~through an incision size substantially less wide than the longest width of bone to be cut, and~~ using a guide surface ~~substantially~~ shorter than the longest width of bone to be cut.

2-3. (Canceled)

4. (Previously presented) The method of claim 1 wherein positioning the total knee replacement component includes positioning a first portion of the total knee replacement against the cut bone, and subsequently positioning a second portion of the total knee replacement component against the same cut bone.

5. (Previously presented) The method of claim 4 further including the step of substantially immovably connecting the first and second portions of the total knee replacement component together after both portions have been positioned within the body, against the cut bone.

6. (Previously presented) The method of claim 1 further including suspending the distal portion of the patient's leg from the knee, including bending the knee to a flexed condition, and cutting the bone of the knee while the knee is bent in the flexed condition.

7. (Previously presented) The method of claim 6 wherein bending the knee includes hyperflexing the knee by moving a bone on one side of a joint anteriorly with respect to a bone on the other side of the joint, whereby additional working space is created within the joint, and cutting the bone of the knee includes cutting the bone of the knee while the knee is hyperflexed.

8. (Original) The method of claim 1 further including distracting the knee while the distal portion of the patient's leg is suspended from the knee, and wherein at least one of the steps of cutting the bone and positioning the total knee replacement component is performed while the knee is distracted.

9. (Original) The method of claim 1 further including displacing a patella of the knee.

10. (Original) The method of claim 9 further including cutting the patella while the patella is displaced.

11. (Original) The method of claim 10 wherein the patella is displaced with an inner side of the patella remaining facing inward.

12. (Original) The method of claim 11 wherein the inner side of the patella remains facing inward during the cutting and positioning steps.

13. (Original) The method of claim 1 further including everting a patella of the knee.

14. (Original) The method of claim 13 further including cutting the patella while the patella is everted.

15. (Currently amended) A method of performing a total knee arthroplasty surgery on a patient's joint, the method comprising, in the following order:

forming an incision having a length of about 13 cm or less;

positioning a cutting guide member at least part ways through the incision, against a bone of the joint, the guide member having a guide surface;

initiating a cut in the bone while guiding a cutting tool along the guide surface to form a cut surface, at least a portion of said cut bone being enclosed by overlying skin and not exposed by the incision;

removing the guide member from against the bone of the joint;

positioning the cutting tool through the incision, and continuing the cut in the bone while guiding the cutting tool along the cut surface;

positioning a first portion of a total knee replacement component against cut bone of one side of a joint, and subsequently positioning a second portion of the total knee replacement component against the cut bone on the same side of the joint; and

affixing the first and second portions of the total knee replacement component together after both portions have been positioned against the cut bone within the body, each of the first and second portions of the total knee replacement component having an articulating surface;

wherein bone may be prepared for a total knee arthroplasty through an incision size substantially less wide than the longest width of bone to be cut, and using a guide surface substantially shorter than the longest width of bone to be cut.

16-18. (Canceled)

19. (Previously presented) The method of claim 15 further including the step of suspending a distal portion of a patient's extremity connected with the joint.

20. (Previously presented) The method of claim 15 further including the step of distracting the joint, and wherein at least one of the steps of positioning the guide member, positioning the cutting tool, initiating the cut, and completing the cut is performed with the joint distracted.

21. (Previously presented) The method of claim 15 wherein initiating the cut and continuing the cut are performed on a condyle of the bone.

22. (Previously presented) The method of claim 15 wherein initiating the cut and completing the cut are performed on both condyles of the bone.

23. (Original) The method of claim 15 further including completing the cut while guiding the cutting tool along the cut surface.

24. (Original) The method of claim 15 further including removing the guide member from the bone before continuing the cut.

25. (Original) The method of claim 15 wherein the guide surface comprises a guide slot and the step of positioning a cutting tool includes inserting the cutting tool into the guide slot.

26. (Currently amended) A method of performing a joint replacement surgery, including cutting away a portion of bone of the joint, the method comprising:

forming an incision having a ~~long dimension~~ length of about 13 cm or less, and a width substantially less than the length;

aligning a cutting guide member with a bone of the joint, the guide member having opposite ends with a transverse dimension which is less than the width of a portion of bone to be cut away;

positioning a cutting tool in association with a guide surface of the guide member;
initiating a cut in the bone while guiding the cutting tool along the guide surface to form a cut surface;

angularly disposing the cutting tool along the guide surface in order to cut a section of the bone wider than the width of the guide member, the swath of the angularly disposed cut being formed at an angle to the long dimension of the incision, and defining a width substantially greater than the width of the incision, at least a portion of said cut being located in the interior of the body with respect to the incision; and

continuing the cut in the bone while guiding the cutting tool along the cut surface,
wherein both medial and lateral condyles of the end portion of the bone are cut by the cutting tool and wherein the guide member is removed from against the bone of the knee joint prior to said step of continuing the cut in the bone

wherein bone may be prepared for a total knee replacement ~~through an incision size substantially less wide than the longest width of bone to be cut, and~~ using a guide surface ~~substantially~~ shorter than the longest width of bone to be cut.

27. (Original) The method of claim 26 further including positioning an implant against the cut bone.

28. (Canceled)

29. (Currently amended) The method of claim ~~[[28]]~~ 26 wherein the guide member is mounted to the bone and offset from a central longitudinal axis of the bone.

30. (Previously presented) The method of claim 29 wherein the joint is a knee, and the guide member is intramedullary mounted to the bone.

31. (Previously presented) The method of claim 29 wherein the joint is a knee, and the guide member is extramedullary mounted to the bone.

32. (Currently amended) The method of claim 26, wherein said guide member is operative when at least half of the guide ~~body~~ surface is disposed laterally to a line defining the longitudinal axis of the bone to be cut.

33. (Currently amended) The method of claim 26, wherein said guide member is operative when at least one end is positioned between the skin and the bone to be cut.

34. (Currently amended) The method of claim 26, wherein the guide member is less wide than the width of the incision.

35. (Previously presented) The method of claim 26, wherein the swath of the angularly disposed cut is formed at about right angles to the long dimension of the incision.

36. (Previously presented) The method of claim 26, wherein the joint is a knee, and the longest dimension of the incision is about 10 cm or less.

37. (New) A method of performing total knee arthroplasty on a patient's knee, the method comprising:

forming an incision having a length of about 13 cm or less;

positioning a cutting guide member in alignment with a bone of the knee, aligning the cutting guide member using references derived independently from an intramedullary device;

cutting bone of at least the first and second condyles of the knee, including

initiating a cut in the bone while guiding a cutting tool along a guide surface of the guide member to form a cut surface,

angularly disposing the cutting tool along the guide surface in order to cut a section of the bone wider than the width of the guide surface, at least a portion of said cut section of bone being located in the interior of the body with respect to the incision,

removing the guide member from against the bone, and then completing the cut of the section of bone, while guiding the cutting tool along the cut in the cut section; and

positioning a total knee replacement component against the cut bone of the knee, wherein the cut of the section of bone has a dimension longer than the guide surface of the guide member.

38. (New) The method of claim 15, wherein said step of initiating a cut in the bone is performed by a robot.

39. (New) The method of claim 15, further including the step of inserting an endoscope through an incision proximate the knee, to visually inspect locations within the knee.

40. (New) The method of claim 15, further including the step of inserting a cannula into a space within the knee.

41. (New) The method of claim 40, further including the step of cutting body tissue through the cannula.

42. (New) The method of claim 41, wherein said step of positioning a total knee replacement component includes inserting said knee replacement component through the cannula.

43. (New) The method of claim 15, further including the steps of:
preparing an end portion of the tibia;
moving a tibial implant through the incision.

44. (New) The method of claim 1, further including the step of using an optical measuring device to determine if the cut has the desired configuration.

45. (New) A method of performing total knee arthroplasty on a patient's knee, the method comprising, in the following order:

forming an incision of about 13 cm or less;

positioning a cutting guide member in alignment with a bone of the knee;

cutting bone of at least the first and second condyles of the knee, including

initiating a cut in the bone while guiding a cutting tool along a guide surface of the guide member to form a cut surface,

angularly disposing the cutting tool along the guide surface in order to cut a section of the bone wider than the width of the guide, at least a portion of said cut section of bone being located in the interior of the body with respect to the incision,

removing the guide member from against the bone, and then completing the cut of the section of bone, while guiding the cutting tool along the cut in the cut section; and

positioning a total knee replacement component against the cut bone of the knee,

wherein the cut of the section of bone has a dimension longer than the guide surface of the guide member, and

wherein bone may be prepared for a total knee arthroplasty through an incision size substantially less wide than the longest width of bone to be cut, and using a guide surface substantially shorter than the longest width of bone to be cut.